Health Monitoring Devices and Wearables

Wearable technology in health care refers to devices that patients attach to their bodies to collect health and fitness data, which may provide to doctors, health care providers, insurers and other relevant parties.

Such examples include; fitness trackers, blood pressure monitors, smart watches, electrocardiogram (ECG) monitors, sleep monitoring devices, respiratory monitors to track breathing patterns and lung function and biosensors. Due to their undoubtable benefits, these wearable shave witnessed booming demand. Smart wearable health devices were valued at $13.8 billion in 2020, and is expected to balloon to $37.4 billion by 2028.

Many companies have been on the fore front to provide such life changing technology; they include:

Silvertree: This health company offers wearables the Silertree Reach wristband created to monitor health and safety for older active adults.

Garmin: It makes a wide range of devices, including fitness and health tracking wearables for adults and children e.g. Venu series to track body patterns, sleep quality and heart rate.

Withings: Health and Wellness Company whose products keep people connected to their health since it leverages the use of Wi-Fi in health enabled watches to track patients heart rate and sleep monitoring.

Wearable technology in health care aims to shake up the industry and empower patients with granular data that leads to actionable insights. With wearables patients have the ability to collect their own health data and report it in a digital format, eliminating the need for in-person appointments. Such technology has revolutionized the early detection and management of chronic conditions.

Future trends in this domain highlight the integration of Artificial Intelligence (AI) and Machine Learning (ML) for personalized health insights, advanced biosensors for multi-parameter health monitoring and the seamless connection of wearables with telehealth platforms for remote patient care. These innovations not only enhance the accuracy and convenience of health monitoring but also empower individuals to take proactive measures in managing their health.

For better customer experience and reliability, some recommendations have been suggested on means and ways to improve their effectiveness.

Interoperable data, by enabling comparisons of devices from different manufacturers.

Access to data and analytics tools; by eliminating barriers to access information and insights from the wearables hence increase likelihood for long term adoption.

More representative user base; the industry should strive to promote the benefits of wearables for wellness, not just health monitoring.

Vifaa vya Kufuatilia Afya Na Vivazi

Teknolojia ya kuvaliwa katika huduma za afya inarejelea vifaa ambavyo wagonjwa huambatanisha na miili yao ili kukusanya data ya afya na siha, ambayo inaweza kutoa kwa madaktari, watoa huduma za afya, bima na wahusika wengine husika.

Mifano hiyo ni pamoja na; vifuatiliaji vya siha, vichunguzi vya shinikizo la damu, saa mahiri, vichunguzi vya electrocardiogram (ECG), vifaa vya kufuatilia usingizi, vichunguzi vya upumuaji vya kufuatilia mifumo ya upumuaji na utendaji kazi wa mapafu na vichunguzi. Kwa sababu ya manufaa yao yasiyo na shaka, nywele hizi zinazoweza kuvaliwa zilishuhudia uhitaji mkubwa. Vifaa vya kiafya vinavyoweza kuvaliwa mahiri vilikadiriwa kuwa dola bilioni 13.8 mnamo 2020, na vinatarajiwa kupanda hadi $37.4 bilioni ifikapo 2028.

Kampuni nyingi zimekuwa mstari wa mbele kutoa teknolojia hiyo ya kubadilisha maisha; wao ni pamoja na:

Silvertree: Kampuni hii ya afya inatoa vifaa vya kuvaliwa na Silertree Reach wristband iliyoundwa ili kufuatilia afya na usalama kwa watu wazima wenye umri mkubwa wanaofanya kazi.

Garmin: Hutengeneza vifaa mbalimbali, ikiwa ni pamoja na vifaa vya kuvaliwa vya watu wazima na watoto vya kufuatilia utimamu wa mwili na kufuatilia afya zao, k.m. Mfululizo wa Venu wa kufuatilia mifumo ya mwili, ubora wa usingizi na mapigo ya moyo.

Withings: Kampuni ya Afya na Ustawi ambayo bidhaa zake huwaweka watu karibu na afya zao kwa kuwa hutumia Wi-Fi katika afya iliwezesha saa kufuatilia mapigo ya moyo na ufuatiliaji wa usingizi wa wagonjwa.

Teknolojia inayoweza kuvaliwa katika huduma za afya inalenga kutikisa tasnia na kuwawezesha wagonjwa na data ya punjepunje ambayo husababisha maarifa yanayoweza kutekelezeka. Wagonjwa wenye vifaa vya kuvaliwa wana uwezo wa kukusanya data yao ya afya na kuiripoti katika muundo wa dijiti, hivyo basi kuondoa hitaji la miadi ya kibinafsi. Teknolojia kama hiyo imeleta mapinduzi katika utambuzi wa mapema na usimamizi wa hali sugu.

Mitindo ya siku zijazo katika kikoa hiki inaangazia ujumuishaji wa Akili Bandia (AI) na Kujifunza kwa Mashine (ML) kwa maarifa yanayobinafsishwa ya afya, sensa za hali ya juu za ufuatiliaji wa afya wa vigezo vingi na muunganisho usio na mshono wa vifaa vya kuvaliwa na mifumo ya simu kwa ajili ya huduma ya wagonjwa wa mbali. Ubunifu huu sio tu kwamba huongeza usahihi na urahisi wa ufuatiliaji wa afya lakini pia huwawezesha watu kuchukua hatua madhubuti katika kudhibiti afya zao.

Kwa uzoefu bora wa wateja na kutegemewa, baadhi ya mapendekezo yamependekezwa kuhusu njia na njia za kuboresha ufanisi wao.

Data inayoingiliana, kwa kuwezesha ulinganisho wa vifaa kutoka kwa wazalishaji tofauti.

Upatikanaji wa zana za data na uchambuzi; kwa kuondoa vizuizi vya kupata habari na maarifa kutoka kwa vifaa vya kuvaliwa na hivyo kuongeza uwezekano wa kupitishwa kwa muda mrefu.

Uwakilishi zaidi wa watumiaji; tasnia inapaswa kujitahidi kukuza faida za vifaa vya kuvaliwa kwa ustawi, sio ufuatiliaji wa afya tu.

Indo cia Kũrora Ũgima wa Mwĩrĩ na Indo cia Gũtwarwo

Tekinoronjĩ iria ĩhũthagĩrwo thibitarĩ-inĩ ĩronania indo iria arwaru mahũthagĩra gũcokanĩrĩria ũhoro wĩgiĩ ũgima wao na ũrĩa marĩ na ũgima mwega wa mwĩrĩ, iria ingĩheanwo kũrĩ mandagĩtarĩ, arĩa marutaga wĩra wa ũrigitani, kambuni cia ũrigitani na arĩa angĩ. Ngerekano ta icio nĩ ta; macini cia kũrora ũgima wa mwĩrĩ, macini cia gũthima thitima, mathaa ma ũũgĩ, macini cia gũthima electrocardiogram (ECG), macini cia gũthima toro, macini cia gũthima mĩhũmũ ya mwĩrĩ cia kũrora mĩtugo ya kũhuhia na wĩra wa mahũri na biosensors. Nĩ ũndũ wa ũguni ũrĩa marĩ naguo, indo icio nĩ ciendetwo mũno. Indo cia ũgima wa mwĩrĩ iria ciĩhumbagwo na njĩra ya ũũgĩ ciarĩ na

thogora wa dola bilioni 13.8 mwaka-inĩ wa 2020, na nĩ ciĩrĩgĩrĩire kũingĩha nginya bilioni 37.4 mwaka-inĩ wa 2028.

Kambuni nyingĩ nĩ ikoretwo mbere ya kũheana tekinoronjĩ ta ĩyo ya kũgarũra mũtũũrĩre; nĩ hamwe na:

Silvertree: Kambuni ĩno ya ũgima wa mwĩrĩ ĩheanaga indo cia kwĩhumba ta gĩcũhĩ gĩa Silertree Reach kĩrĩa gĩthondeketwo kũrora ũgima wa mwĩrĩ na ũgitĩri wa andũ akũrũ arĩa matungataga. **Garmin:** nĩ ĩkoragwo na indo nyingĩ cia kũhũthĩrwo, ta indo cia kũhumba cia kũrũmĩrĩra ũgima wa mwĩrĩ wa andũ agima na ciana. Mũtaratara wa Venu wa kũrora ũrĩa mwĩrĩ ũrathiĩ, mũtaratara wa gũkoma na ũrĩa ngoro ĩrathiĩ.

Withings: Kambuni ya ũgima mwega wa mwĩrĩ na ũrigitani ĩrĩa indo ciayo itũmaga andũ makorũo na ũrata na ũgima wao wa mwĩrĩ tondũ ĩhũthagĩra Wi-Fi ithaa-inĩ cia ũgima mwega wa mwĩrĩ kũrora ũrĩa ngoro irũaga na ũrĩa toro ũrathiĩ.

Tekinoronjĩ cia kwĩhumba cia ũrigitani irongoreirie kũgarũra maũndũ na kũhe arwaru ũhoti wa kũhũthĩra ũhoro ũrĩa ũratongoria harĩ ũmenyo ũrĩa ũngĩhũthĩka. Kũgerera thimũ iria mũndũ ehumbaga, arwaru no mahote kwĩrũgamĩrĩra

Nĩguo andũ magĩe na ũmenyeru mwega na ũigananĩru, nĩ gũkoretwo na maũndũ ma kwĩrutanĩria megiĩ njĩra na njĩra cia kũongerera ũhoti.

Ũhoro ũcio no ũhũthĩrũo kũringithania indo iria ithondeketwo na njĩra itiganĩte.

Kũgĩa na indo cia gũthuthuria na cia gũthuthuria; na njĩra ya kweheria mĩhĩnga ya kũgĩa na ũhoro na ũmenyo kuuma indo-inĩ cia kwĩhumbĩra na kwoguo kwongerera ũhotekeku wa kũhũthĩrũo ihinda iraya.

Gũkorũo na andũ aingĩ arĩa mahũthagĩra indo icio; kambuni ĩyo yagĩrĩirũo kwĩrutanĩria gũtwarithia na mbere ũguni wa indo iria ihũthagĩrũo ũgima-inĩ wa mwĩrĩ, no ti kũrora tu ũgima wa mwĩrĩ.